B1 Cancl.

information which does not include a transparency with the analog broadcast video signal in response to the analog broadcasting channel being selected.

B2

13. (ONCE AMENDED) The digital broadcast receiver of claim 11, further comprising a second luminance/color separation unit to separate the image signal transmitted from the video mix unit into a second luminance signal and a second color signal.

B3

17. (ONCE AMENDED) The digital broadcast receiver of claim 13, further comprising:

a first luminance/color separation unit to separate the analog broadcasting signal into a first luminance signal and a first color signal; and

a switching unit to change the first luminance signal and the first color signal to a continuous signal.

REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1-4, 13, and 17 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-20 are pending and under consideration.

IN THE DRAWINGS:

On page 2 of the Office Action, changes to FIG. 2 were requested in view of the claimed features of dependent claims 13 and 17. Because dependent claims 13 and 17 have been amended to correspond to the features shown in FIG. 2, it is respectfully requested that the objection to FIG. 2 be withdrawn.

CHANGES TO THE SPECIFICATION:

The Abstract of the specification has been reviewed in response to this Office Action. Changes have been made to the Abstract only to place it in preferred and better U.S. form for issuance and to resolve the Examiner's objections raised in the Office Action. No new matter has been added.

REJECTION UNDER 35 U.S.C. § 103:

In the Office Action, at page 3, item numbered 4, claims 1-20 were rejected under 35 U.S.C. § 103 in view of U.S. Patent No. 6,226,794 to Anderson, Jr. et al. ("Anderson") and U.S. Patent No. 5,633,688 to Choi et al. ("Choi"). The reasons for the rejection are set forth in the Office Action and therefore not repeated. The rejection is traversed and reconsideration is requested.

Anderson generally describes a set top terminal for receiving information transmitted from a service provider, for receiving control information transmitted by a service provider, and for transmitting control information from the set top terminal to the service provider to interactively control the services that are being received. See abstract. On page 4 of the Office Action, the Examiner correctly recognizes that Anderson fails to teach or suggest "receiving the analog broadcasting signal if the analog broadcasting channel is selected, **extracting a synchronous signal from the received analog broadcasting signal, adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal,** and separating the analog broadcasting signal into an analog broadcasting audio signal and an analog broadcasting video signal," emphasis added, as recited in independent claim 1. Accordingly, Applicants further assert that Anderson fails to teach or suggest, "**selectively encoding** the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information **according to the extracted synchronous signal,**" emphasis added, as recited in independent claim 1. Rather, Anderson describes an encoder using a digital video as well as 27 MHz clock to generate luminance and chrominance signals as well as a composite video signal. See column 5, lines 58-62. There is no indication in Anderson that the selection is performed according to the extracted synchronous signal.

Anderson describes a multiplexer, under control of a video output selection line 178, selecting **either** luminance and chrominance signals as well as a composite video generated from the digital video **or** the luminance and chrominance signals as well as the composite video generated from the analog video signals as an output signal for the set top terminal. (Emphasis added). See column 5, lines 66-67, to column 6, lines 1-5. However, Anderson fails to teach or suggest "**selectively transmitting** the additional information overlapped with the analog broadcasting video signal separated from the analog broadcasting signal **and** the additional information overlapped with the MPEG processed video signal separated from the digital broadcast signal **in accordance with the encoding selected in the encoding of the MPEG processed video signal,**" as recited in independent claim 1.

Choi is directed an image superimposing apparatus including a sync separator 10 for separating an external composite sync signal from an external composite image signal, a clock signal generator 20 for adjusting the frequency of a clock signal (CLK) so as to be synchronized with the external composite sync signal according to a **phase difference** between an internal horizontal sync signal and a horizontal sync signal of the separated external composite sync signal, a sync signal generator 30 for generating an **internal composite synchronization signal** (SYNC), and a superimposing circuit 50 for producing an image signal, encoding the internal composite sync signal and an RGB signal as a television signal, and superimposing the encoded color television signal with the external composite image signal. (Emphasis added) See column 2, lines 33-58. However, similarly to Anderson, Choi fails to teach or suggest "extracting a synchronous signal from the received analog broadcasting signal, **adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal**," emphasis added, as recited in independent claim 1. Further, Choi fails to teach or suggest "**selectively encoding** the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information **according to the extracted synchronous signal**," emphasis added, as recited in independent claim 1. Choi merely appears to describe superimposing the encoded color television signal with the external composite image signal without any teaching or suggestion of doing so according to the extracted synchronous signal.

According to the Office Action, it would have been obvious to combine the teachings of Anderson and Choi in order to minimize jitter and distortion when a viewer switches reception between digital and analog broadcasting without showing in Anderson a need to minimize jitter and distortion. The prior art of record must not only suggest the desirability that the teachings of references be combined but must also suggest the desirability of the modifications in the manner proposed in the Office Action as well as the results to be achieved. See Lear Siegler v. Aeroquip Corp., 733 F.2d 881, 221 U.S.P.Q. 1025 (Fed. Cir. 1984), and Diversitech v. Century Steps, 850 F.2d 675, 7 U.S.P.Q.2d 1315 (Fed. Cir. 1988). The Examiner combines the references without showing where in the cited references there is a showing or suggestion of the desirability to combine their teachings.

It is improper to merely deem something obvious without any teaching/suggestion from a reference. The Federal Circuit has cautioned that an Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and **with no knowledge of the claimed invention**, would select the elements from the cited prior art references for combination in the manner claimed. In re Rouffet, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

No such showing has been made in the present Office Action. It is submitted that the reason why no such showing was made is because the prior art of record individually or combined, fail to teach, suggest, or otherwise provide the motivation needed to make such a modification. "To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness." Ex Parte Clapp, 227 USPQ 972, 973 (B.P.A.I. 1985).

In view of the foregoing, even assuming arguendo, that the teachings of Anderson and Choi were combined, the limitations of independent claim 1 would not be provided. For instance, the combination would provide for a multiplexer 176 and a sync signal generator 30 for generating an internal composite synchronization signal (SYNC) without either reference providing that a synchronous signal is extracted "from the received analog broadcasting signal, adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal, and separating the analog broadcasting signal into an analog broadcasting audio signal and an analog broadcasting video signal," as recited in independent claim 1. Further, the combination of the cited references would fail to provide, "selectively encoding the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information according to the extracted synchronous signal," as recited in independent claim 1. It is respectfully requested that independent claim 1 and related dependent claims be allowed.

Independent claim 5 recites "an air tuner to receive the analog broadcasting signal according to the selection of the controller; a synchronous separation unit to extract a synchronous signal from the analog broadcasting signal received from said air tuner and to separate the analog broadcasting signal into an analog audio signal and an analog video signal; an additional information process unit to generate additional information according to a first one of the plurality of control signals from said controller; a video encoder unit to encode the MPEG processed video signal and additional information into an encoded analog video signal according to a second one of the plurality of control signals and the synchronous signal." To reject independent claim 5, the Office Action refers to similar portions of Anderson and Choi as those portions previously discussed and distinguished from the claimed features of independent claim 1. The arguments presented above supporting the patentability of independent claim 1 in view of Anderson and Choi are incorporated herein to support the patentability of independent claim 5.

In addition, on page 11 of the Office Action, the Examiner correctly asserted that Anderson fails to teach or suggest additional information processing unit. Accordingly, the Examiner refers to a sync separator (10), a clock (20), a sync signal (30), and a video superimposing circuit (50). However, none of the referred elements from Choi teach or suggest generating "**additional information according to a first one of the plurality of control signals from said controller**," emphasis added, as recited in independent claim 5. Accordingly, Anderson and Choi, individually or combined, fail to teach or suggest all the claim limitations of independent claim 5. It is respectfully requested that independent claim 5 be allowed.

Independent claim 11 recites "a synchronous separation unit to separate the analog broadcasting signal into a synchronous signal, an analog video signal, and an analog audio signal; a video encoder to encode a video signal from the digital broadcasting signal and the additional information according to the separated synchronous signal; and a video mix unit to overlap the additional information with the analog video signal from the synchronous separation unit in response to the analog broadcasting signal being displayed, and to select the video signal from the digital broadcasting signal and the additional information in response to the digital broadcasting signal being displayed, to transmit an image signal." Similar portions of Anderson and Choi are referred to in the Office Action as those portions previously discussed and distinguished from the claimed features of independent claims 1 and 5. The arguments presented above supporting the patentability of independent claim 1 in view of Anderson and Choi are incorporated herein to support the patentability of independent claim 11.

Further, on page 11 of the Office Action, the Examiner correctly asserts that Anderson fails to teach or suggest an additional information processing unit. Accordingly, the Examiner refers to a sync separator (10), a clock (20), a sync signal (30), and a video superimposing circuit (50) of Choi as disclosing the claimed features of the additional information processing unit. However, none of the referred elements in Choi teach or suggest "a controller to determine whether an analog broadcasting signal or a digital broadcasting signal is to be displayed, and to generate additional information . . . a video encoder to encode a video signal from the digital broadcasting signal and **the additional information according to the separated synchronous signal**," emphasis added, as recited in independent claim 11. Accordingly, Anderson and Choi, individually or combined, fail to teach or suggest all the claim limitations of independent claim 11. It is respectfully requested that independent claim 11 be allowed.

Referring to independent claim 18, as previously set forth, Anderson fails to teach or

suggest "a processing unit to process the digital and analog broadcasting signals in accordance with the selection by said tuning unit, and to synchronize phases of the digital and analog broadcasting signals upon the tuning unit changing selection between the digital and analog broadcasting signals," as recited in independent claim 18. Further, Choi describes a sync separator 10 for separating an external composite sync signal from an external composite image signal, a clock signal generator 20 for adjusting the frequency of a clock signal (CLK) so as to be synchronized with the external composite sync signal according to a **phase difference** between an internal horizontal sync signal and a horizontal sync signal of the separated external composite sync signal. See column 2, lines 35-52 of Choi. Thus, rather than synchronizing "phases of the digital and analog broadcasting signals upon the tuning unit changing selection between the digital and analog broadcasting signals," as recited in independent claim 18, Choi describes obtaining a phase difference between the internal horizontal sync signal and the horizontal sync signal of the separated external composite sync signal. Accordingly, it is respectfully asserted that Anderson and Choi, individually or combined, fail to teach or suggest all the claimed features of independent claim 18. It is respectfully requested that independent claim 18 and related dependent claim 19 be allowed.

Independent claim 20 recites "a processing unit to process the digital and analog broadcasting signals in accordance with the selection by said tuning unit, and including an **additional information processing unit to generate additional information corresponding to the digital and analog broadcast signals**, and a video mix unit to selectively output the processed digital broadcasting signal with the additional information and the processed analog broadcasting signal with the additional information, wherein the additional information corresponding to the digital broadcasting signal and the analog broadcasting signal are the same." On page 11 of the Office Action, the Examiner recognized that the claimed feature of the additional information processing unit is not taught or suggested by Anderson. Further, as previously set forth, the sync separator (10), the clock (20), the sync signal (30), and the video superimposing circuit (50) of Choi fail to teach or suggest "an additional information processing unit to generate additional information corresponding to the digital and analog broadcast signals," as recited in independent claim 20. Accordingly, it is respectfully asserted that Anderson and Choi, individually or combined, fail to teach or suggest all the claimed features of independent claim 20. It is respectfully requested that independent claim 20 be allowed.

According to the Office Action, the reason for a motivation to combine the teachings of Anderson and Choi to reject independent claims 5, 11, 18, and 20 is the same as the motivation

provided to combine these references to reject independent claim 1. Thus, the arguments presented above supporting improper motivation to combine the references are incorporated herein.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: June 26, 2002

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NEW ABSTRACT SUBSTITUTED FOR THE ORIGINAL

IN THE ABSTRACT:

D.E. R1.121 (b)(4)(iii)

A broadcasting receiver of a display receiver and method thereof receives a digital broadcasting signal and an analog broadcasting signal. A tuning unit selectively receives the digital and analog broadcasting signals. A processing unit processes the digital and analog broadcasting signals in accordance with the selection by said tuning unit, and includes an additional information processing unit to generate additional information corresponding to the digital and analog broadcast signals, and a video mix unit to selectively output the processed digital broadcasting signal with the additional information and the processed analog broadcasting signal with the additional information. The additional information corresponding to the digital broadcasting signal and the analog broadcasting signal are the same.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please AMEND claims 1-4, 13, and 17:

1. (TWICE AMENDED) A method of receiving an analog broadcasting signal and a digital broadcasting signal, comprising [the steps of]:

selecting one of a digital broadcasting channel and an analog broadcasting channel;

receiving the digital broadcasting signal if the digital broadcasting channel is selected and separating the digital broadcasting signal into an MPEG processed video signal and an MPEG processed audio signal using MPEG processing;

receiving the analog broadcasting signal if the analog broadcasting channel is selected, extracting a synchronous signal from the received analog broadcasting signal, adjusting the extracted synchronous signal to a synchronous signal of the digital broadcasting signal, and separating the analog broadcasting signal into an analog broadcasting audio signal and an analog broadcasting video signal;

selectively encoding the MPEG processed video signal separated from the digital broadcasting signal and predetermined additional information according to the extracted synchronous signal;

selectively transmitting the additional information overlapped with the analog broadcasting video signal separated from the analog broadcasting signal and the additional information overlapped with the MPEG processed video signal separated from the digital broadcast signal in accordance with the encoding selected in the encoding <u>of the MPEG processed video signal</u> [step]; and

selectively transmitting the MPEG processed audio signal separated from the digital broadcasting signal and the analog broadcasting audio signal separated from the analog broadcasting signal.

2. (TWICE AMENDED) The method of claim 1, wherein the selective encoding <u>of the MPEG processed video signal</u> [step] comprises [the step of] overlapping and analogizing the MPEG processed video signal overlapped with the additional information in response to the selection of the digital broadcasting channel and only analogizing the additional information in response to the selection of the analog broadcasting channel.

3. (TWICE AMENDED) The method of claim 1, wherein, the selective transmitting [step] of the additional information, comprises [the step of] selecting and transmitting the MPEG processed video signal separated from the digital broadcast signal overlapped with the additional information in response to the digital broadcasting channel being selected, and selecting and transmitting the analog broadcast video signal separated from the analog broadcasting signal overlapped with the additional information in response to the analog broadcasting channel being selected.

4. (TWICE AMENDED) The method of claim 1, wherein the selective transmitting [step] of the additional information comprises [the step of] mapping and transmitting information of the additional information which does not include a transparency with the analog broadcast video signal in response to the analog broadcasting channel being selected.

13. (ONCE AMENDED) The digital broadcast receiver of claim 11, further comprising a [first] second luminance/color separation unit to separate the image signal transmitted from the video mix unit into a [first] second luminance signal and a [first] second color signal.

17. (ONCE AMENDED) The digital broadcast receiver of claim 13, further comprising:

a [second] first luminance/color separation unit to separate the analog broadcasting signal into a [second] first luminance signal and a [second] first color signal; and

a switching unit to change the [second] first luminance signal and the [second] first color signal to a continuous signal.